What is claimed is:

1. A cellular composition comprising a purified population of multipotent mammalian cells, which multipotent cells form non-adherent clusters in culture, are self renewing, are positive for nestin and fibronectin protein, and differentiate into both neuronal and non-neuronal cell types.

2. A cellular composition comprising multipotent mammalian cells with fewer than 30 percent lineage committed cells, wherein said multipotent cells form non-adherent clusters in culture, are self renewing, are positive for nestin and fibronectin protein, and differentiate into ectodermal and mesodermal cell types.

3. A cellular composition comprising multipotent cells prepared by the method comprising:
   (a) culturing a dissociated sample of epithelial tissue;
   (b) isolating, from the culture, non-adherent cells characterized by the following: are positive for nestin and fibronectin protein, are self renewing, and differentiate into ectodermal and mesodermal cell types.

4. A cellular composition comprising a population of multipotent mammalian cells, which multipotent cells form non-adherent clusters in culture, are self-renewing, are positive for nestin and fibronectin protein, differentiate into both neuronal and non-neuronal cell types, and can proliferate in culture in the absence of exogenous EGF.

5. A cellular composition comprising a population of multipotent mammalian cells, which multipotent cells form non-adherent clusters in culture, are self-renewing, are positive for nestin and fibronectin protein, are negative for vimentin and cytokeratin protein, and differentiate into both neuronal and non-neuronal cell types.

6. A cellular composition comprising a population of multipotent mammalian cells, which multipotent cells form non-adherent clusters in culture, are self-renewing, are positive for nestin and fibronectin protein, are negative for vimentin, cytokeratin, and p75 protein, and differentiate into both neuronal and non-neuronal cell types.

7. The cellular composition of any of claims 1-6, which multipotent cells differentiate into cells expressing one or more markers selected from the group consisting of Glial Fibrillary Acid Protein (GFAP), neurofilament 160, β III tubulin, NeuN, neurofilament-M (NFM), neuron-specific enolase, galactocerebroside, GAD, tyrosine hydroxylase (TH), dopamine β-dehyrdogenase and CNPase.

8. The cellular composition of any of claims 1-6, which multipotent cells can differentiate to produce astrocytes, oligodendrocytes, and neurons.

9. The cellular composition of claim 8, wherein the neuron is a dopaminergic neuron.

10. The cellular composition of any of claims 1-6, which multipotent cells differentiate to form cells selected from the group consisting of epithelial cells, endothelial cells, skeletal muscle cells, cardiac muscle cells, connective tissue cells, lung cells, adipocytes, pancreatic islet cells, hematopoietic cells, chondrocytes, bone, kidney cells, and hepatocytes.

11. The cellular composition of any of claims 1-6, wherein the multipotent cells are present in the composition in non-adherent cell aggregates of 10 cells or more.

12. The cellular composition of any of claims 1-6, including 10^6 or more of said multipotent cells.

13. The cellular composition of any of claims 1-6, wherein the multipotent cells are engineered to include a heterologous gene.

14. The cellular composition of claim 13, wherein the heterologous gene encodes a therapeutic protein.

15. The cellular composition of claim 13, wherein the heterologous gene encodes a protein which affects the growth or differentiation fate of said multipotent cells or the progeny thereof.

16. The cellular composition of claim 3, wherein said epithelial tissue is skin or mucosal tissue.

17. The cellular composition of claim 3, wherein said epithelial tissue is derived from tongue.

18. The cellular composition of claims 3, 16 or 17, wherein said epithelial tissue is from an adult mammal.

19. The cellular composition of claims 3, 16 or 17, wherein said epithelial tissue is from a juvenile mammal.

20. The cellular composition of the differentiated cells of any of claims 1-6.

21. A cellular composition comprising differentiated cells prepared by the method comprising plating the non-adherent clusters of any of claims 1-6 on a substratum coated with a substrate that promotes their attachment to the substratum.

22. The cellular composition of claim 21, wherein the method further comprises modulating the plating conditions to influence proliferation, differentiation, and/or survival of the cells.

23. The cellular composition of claim 22, wherein the modulation of plating conditions includes at least one of changing the serum concentration, changing the plating density or the addition of a therapeutic protein.

24. A kit comprising a cellular composition of any of claims 1-6, and means for introducing the cellular composition into a patient.

25. A kit comprising a composition of differentiated progeny from a multipotent cell of any of claims 1-6, and means for introducing the composition into a patient.

26. The cellular composition comprising any of claims 1-6, formulated in a pharmaceutically acceptable carrier, auxiliary or excipient.

27. The cellular composition comprising claim 20, formulated in a pharmaceutically acceptable carrier, auxiliary or excipient.

28. The cell line established from the cellular composition of any of claims 1-6.

29. The cell line of claim 28, wherein the cell expresses a heterologous gene.

30. A method of treating a patient with cell damage or disease comprising transplanting the cells of any of claims 1-6.

31. The method of claim 30, wherein the multipotent cells are autologously derived.

32. The method of claim 30, wherein the multipotent cells are derived from a genetically related donor.

33. The method of claim 30, wherein the cell damage or disease is selected from a neurodegenerative disease, diabetes, heart disease, heart attack, or stroke.

34. The method of claim 30, wherein the cell damage or disease is the result bacterial or viral infection.

35. The method of claim 30, wherein the cell damage or disease is the result of traumatic injury including fractures, lacerations, and burns.

36. The method of claim 30, wherein the multipotent cells are transplanted at the site of cell damage or disease.

37. The method of claim 30, wherein the multipotent cells are delivered to the site of cell damage via the bloodstream.

38. The method of claim 30, wherein the patient is a human patient.

39. A cellular composition comprising a purified preparation of the differentiated cells of claims 20 or 21.

40. A method of treating a patient with cell damage or disease comprising transplanting the cells of claim 39.

41. The method of claim 40, wherein the patient is a human patient.

42. The method of claim 40, wherein the transplant is at the site of cell damage or disease.

43. The method of claim 40, wherein the cell damage or disease is a neurodegenerative disease, diabetes, heart disease, heart attack, or stroke.

44. The method of claim 40, wherein the cell damage or disease is the result bacterial or viral infection.

45. The method of claim 40, wherein the cell damage or disease is the result of traumatic injury including fractures, lacerations, and burns.

46. A method for preparing stem cell preparations, comprising:
(a) obtaining an epithelial tissue sample from a patient;
(b) culturing cells dissociated from said tissue sample;
(c) isolating from the culture multipotent cells characterized by the following: form non-adherent clusters in culture; are self renewing; express nestin and fibronectin; and differentiate into ectodermal and mesodermal cell types; and
(d) preserving and storing the multipotent cells for later retrieval.

47. A method for preparing cell preparations, comprising:
(a) obtaining an epithelial tissue sample from a patient;
(b) culturing cells dissociated from said tissue sample under conditions wherein multipotent cells are expanded, which multipotent cells are characterized by the following: form non-adherent clusters in culture; are self renewing; express nestin and fibronectin; and differentiate into ectodermal and mesodermal cell types;
(c) differentiating the multipotent cells into one or more lineage committed cell types; and
(d) preserving and storing the differentiated cells for later retrieval.

48. A method for preparing cell preparations, comprising:
(a) obtaining an epithelial tissue sample from a patient;

(b) culturing cells dissociated from said tissue sample under conditions wherein multipotent cells are expanded, which multipotent cells are characterized by the following: form non-adherent clusters in culture; are self renewing; express nestin and fibronectin; and differentiate into ectodermal and mesodermal cell types;

(c) differentiating the multipotent cells into one or more lineage committed cell types, wherein the conditions for differentiating the multipotent cells include modulating the plating conditions; and

(d) preserving and storing the differentiated cells for later retrieval.

49. The method of either claim 46 or 47, wherein the preserved cells are formulated in a pharmaceutically acceptable carrier, auxiliary or excipient.

50. The method of either claim 46 or 47, wherein the step of preserving the multipotent cells or differentiated cells includes cryogenic preservation.

51. A method for conducting a regenerative medicine business, comprising:

(a) a service for accepting and logging in epithelial tissue samples from a client;

(b) a cell culture system for culturing cells dissociated from said tissue sample, which system provides conditions suitable for expanding multipotent cells in said sample, which multipotent cells are characterized by the following: form non-adherent clusters in culture; are self renewing; express nestin and fibronectin; and differentiate into ectodermal and mesodermal cell types;

(c) a cell preservation system for preserving said multipotent cells for later retrieval on behalf of said client or other third party.

52. A method for conducting a regenerative medicine business, comprising:

(a) a service for accepting and logging in epithelial tissue samples from a client;

(b) a cell culture system for culturing cells dissociated from said tissue sample, which system provides conditions suitable for expanding multipotent cells in said sample, which multipotent cells are characterized by the following: form non-adherent clusters in culture; are self renewing; express nestin and fibronectin; and differentiate into ectodermal and mesodermal cell types;

(c) a cell differentiation system for differentiating said multipotent cells into one or more lineage committed cell types

(d) a cell preservation system for preserving said lineage committed cells for later retrieval on behalf of said client or other third party.

53. The method of claim 51 or 52, further including a billing system for billing the client or a medical insurance provider thereof.

54. A method for conducting a stem cell business, comprising:

(i) identifying one or more agents which affect the proliferation or differentiation of the multipotent cells of any of claims 1-6;

(ii) conducting therapeutic profiling of agents identified in step (i), or analogs thereof, for efficacy and toxicity in animals; and

(iii) formulating a pharmaceutical preparation including one or more agents identified in step (ii) as having an acceptable therapeutic profile.

55. The method of claim 54, wherein step (i) comprises contacting the multipotent stem cells with one or more small molecules and identifying those which affect the proliferation or differentiation of the multipotent stem cells.

56. The method of claim 54, wherein step (i) comprises contacting the multipotent stem cells with one or more extracellular proteins and identifying those which affect the proliferation or differentiation of the multipotent stem cells.

57. The method of claim 54, including an additional step of establishing a distribution system for distributing the pharmaceutical preparation for sale.

58. The method of claim 54 or 57, including establishing a sales group for marketing the pharmaceutical preparation.

59. A method of conducting a drug discovery business, comprising:

(i) identifying one or more agents which affect the proliferation or differentiation of the multipotent cells of any of claims 1-6;

(ii) licensing, to a third party, the rights for further drug development of agents identified in step (i) as able to affect the proliferation or differentiation of the multipotent stem cells.

60. A cellular composition of adult stem cells which (i) will proliferate in an in vitro culture, (ii) maintains the potential to differentiate to derivatives of endoderm, mesoderm, and ectoderm tissues throughout the culture, and (iii) is inhibited from differentiation when cultured under proliferative conditions.

61. A cellular composition of adult stem cells which stem cells which (i) will proliferate in an in vitro culture for over one year, (ii) maintains a karyotype in which the chromosomes are euploid and not altered through prolonged culture, (iii) maintains the potential to differentiate to derivatives of endoderm, mesoderm, and ectoderm tissues throughout the culture, and (iv) is inhibited from differentiation when cultured under proliferative conditions.

62. A method for conducting a regenerative medicine business, comprising:

(a) a service for accepting and logging in epithelial tissue samples from a client;

(b) a cell culture system for culturing cells dissociated from said tissue sample, which system provides conditions suitable for expanding multipotent cells in said sample, which multipotent cells are characterized by the following: form non-adherent clusters in culture; are self renewing; express nestin and fibronectin; and differentiate into ectodermal, mesodermal, and endodermal cell types;

(c) a cell preservation system for preserving said multipotent cells for later retrieval on behalf of said client or other third party.

63. A method for conducting a regenerative medicine business, comprising:

(a) a service for accepting and logging in epithelial tissue samples from a client;

(b) a cell culture system for culturing cells dissociated from said tissue sample, which system provides conditions suitable for expanding multipotent cells in said sample, which multipotent cells are characterized by the following: form non-adherent clusters in culture; are self renewing; express nestin and fibronectin; and differentiate into ectodermal, mesodermal, and endodermal cell types;

(c) a cell differentiation system for differentiating said multipotent cells into one or more lineage committed cell types

(d) a cell preservation system for preserving said lineage committed cells for later retrieval on behalf of said client or other third party.